

Application number 09/712,632
Amendment dated 2/5/2004
Reply to office action of August 5, 2003

PATENT

REMARKS/ARGUMENTS

After entry of this amendment, claims 10-14, and 33-60 will remain pending in this application. Claims 10-14 and 37 have been amended. Claims 11-13 have been amended for internal consistency.

Claims 10-14 and 33-60 stand rejected under 35 U.S.C. 102(e) as being anticipated by Van Hook, et al, (Van Hook) U.S. Patent 6,353,438.

Reconsideration of these rejections in light of these amendments and remarks is respectfully requested.

Claim 10

Claim 10 stands rejected under 35 U.S.C. 102(e) as being anticipated by Van Hook. But Van Hook does not teach each and every element of this claim. For example, claim 10, as amended, recites "forming an index signal by concatenating middle order bits of the s coordinate, middle order bits of the t coordinate, and at least one bit of the level of detail, and further comprising forming a tag signal by concatenating upper order bits of the s coordinate, upper order bits of the t coordinate, and at least one bit of the level of detail." Van Hook does not provide this feature.

Van Hook does not teach using a portion of a level of detail as a part of an index signal and a tag signal. Rather, Van Hook only teaches using a portion of the level of detail as part of a tag signal in Figures 12A-12C.

Additionally, a tag signal is not the same as an index signal. By way of example, consider a dance floor. Tag signals keep track of who is dancing, while index signals keep track of who may dance with whom. These are not the same function. Forming a tag signal using at least one bit of a level of detail is not the same as forming an index signal using at least one bit of a level of detail, and is also not the same as forming a tag signal and an index signal in this manner.

For at least these reasons, this claim should be allowed.

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Claim 11

Claim 11 stands rejected under 35 U.S.C. 102(e) as being anticipated by Van Hook. But Van Hook does not teach each and every element of this claim. For example, claim 11 recites "wherein the texel is associated with a texture having a texture identification comprising a plurality of bits, further comprising forming an index signal by concatenating middle order bits of the s coordinate, middle order bits of the t coordinate, and at least one bit of the texture identification." Van Hook does not provide this feature.

The pending office action cites column 7, line 27 of Van Hook as teaching this limitation. (See pending office action, page 4.) But this passage discusses using a portion of the texel information as part of the tag, and in later sentences the portion of the texel information is identified as the s and t coordinates. They do not teach forming an index signal using and at least one bit of the texture identification as required by the claim. Using at least one bit of the texture identification as part of an index signal reduces thrashing in a texture cache as described in the specification. These passages do not provide this feature.

For at least these reasons this claim should be allowed.

Claim 12

Claim 12 stands rejected under 35 U.S.C. 102(e) as being anticipated by Van Hook. But Van Hook does not teach each and every element of this claim. For example, claim 12 recites "wherein the texel is associated with a texture having an r coordinate comprising at least one bit, further comprising forming an index signal by concatenating middle order bits of the s coordinate, middle order bits of the t coordinate, and at least one bit of the r coordinate." Van Hook does not provide this feature.

The pending office action cites column 2, lines 34-54 and 15, lines 8-11 and 35-35 of Van Hook as teaching this limitation. (See pending office action, page 4.) But these passages discuss depth cueing, trilinear filtering, and three dimensional coordinates. They do not teach forming an index signal using and at least one bit of the r coordinate as required by the claim. Using at least one bit of the r coordinate as part of an index signal reduces thrashing in a texture cache as described in the specification. These passages do not provide this feature.

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For at least these reasons this claim should be allowed.

Claim 13

Claim 13 stands rejected under 35 U.S.C. 102(e) as being anticipated by Van Hook. But Van Hook does not teach each and every element of this claim. For example, claim 13 recites "wherein the texel has a main memory address comprising a plurality of bits, further comprising forming an index signal by concatenating middle order bits of the s coordinate, middle order bits of the t coordinate, and at least one bit of the main memory address." Van Hook does not provide this feature.

The pending office action cites Figures 7-9 and column 7, lines 23-25 of Van Hook as teaching this limitation. (See pending office action, page 4.) But these passages discuss storing data in DRAM 900, which naturally uses memory addresses. They do not teach forming an index signal using and at least one bit of the main memory address as required by the claim. Using at least one bit of the memory address as part of an index signal reduces thrashing in a texture cache as described in the specification. These passages do not provide this feature.

For at least these reasons this claim should be allowed.

Other Claims

Claim 14 should be allowed for similar reasons as claims 11, 12, and 13. Claims 33-37 depend on claim 10 and should be allowed for the same reasons and for the additional limitations they recite. Claims 38-42 depend on claim 11 and should be allowed for the same reasons and for the additional limitations they recite. Claims 43-47 depend on claim 12 and should be allowed for the same reasons and for the additional limitations they recite. Claims 48-52 depend on Claim 13 and should be allowed for the same reasons and for the additional limitations they recite. Claims 53-55 depend on claim 14 and should be allowed for the same reasons and for the additional limitations they recite. Claims 57-60 depend on claim 56 and should be allowed for the same reasons and for the additional limitations they recite.

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CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal notice of allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



J. Matthew Zigmant
Reg. No. 44,005

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 650-326-2400 Fax: 415-576-0300
JMZ:djb
60135959 v1